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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,982	09/17/2003	David Chong Sook Lim	112055-0040P1	4640
24267	7590	12/01/2005	EXAMINER ANDUJAR, LEONARDO	
CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210			ART UNIT 2826	PAPER NUMBER

DATE MAILED: 12/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/664,982

Applicant(s)

LIM ET AL.

Examiner

Leonardo Andújar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/23/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) / | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgment

1. The amendment filed on 9/07/2005 in response to the Office action mailed on 5/20/2005 has been entered. The present Office action is made with all the suggested amendments being fully considered. Accordingly, pending in this Office action are claims 1, 3-5, 7 and 8.

Election/Restrictions

2. Applicant's election without traverse of species 1 (fig. 3) in the reply filed on 03/24/2005 is acknowledged.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3-5, 7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Shim et al. (US 6,531,784).

5. Regarding claim 1 Shim (e.g. fig. 9) shows a die containing package comprising: a die 14 defining electrical die contacts, a substrate defining first substrate contacts, flattened electrical conductive balls 58 attached to the die contacts and making electrical connection thereto, electrical conductive runs 22/24 on the substrate 12

connecting the first substrate contacts (i.e. the electrical contacts formed by the runs and the wires 28) to second substrate contacts 18, electrically conductive wires 28 with a first ends making electrical connection to the first substrate contacts, and wherein the other ends **A** are arranged making electrical connections to the flattened electrical conductive balls attached to the die contacts, and wherein the other ends remain substantially parallel to the surface of the die as they make electrical connection to the flattened conductive balls.

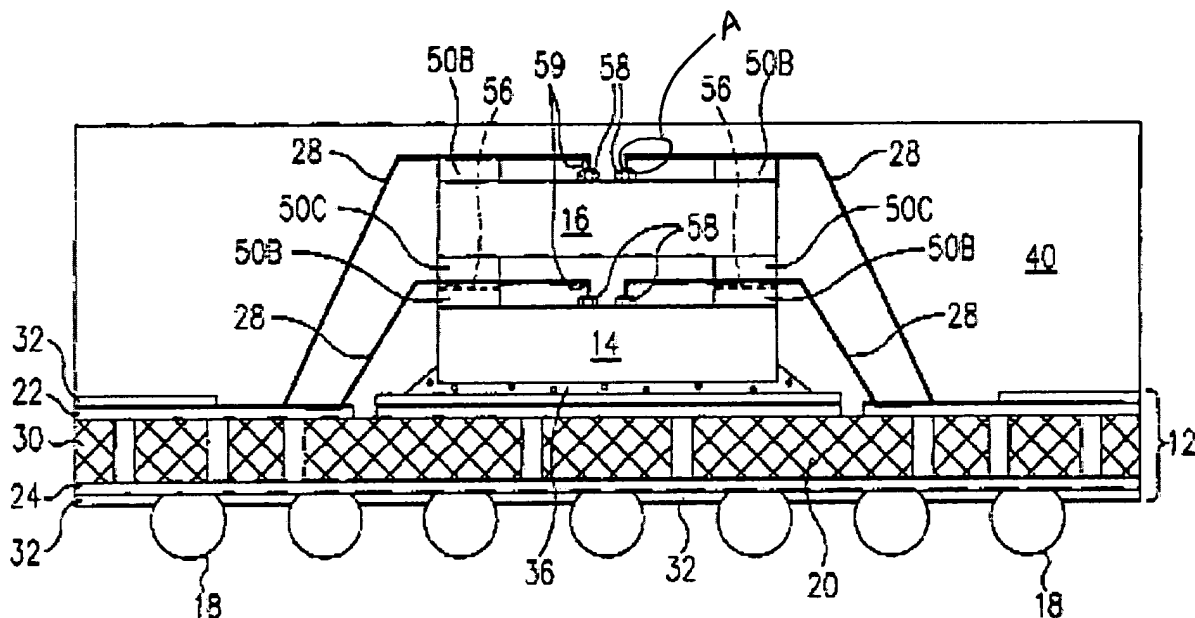


FIG. 9

6. Regarding claim 3, Shim shows that the second substrate contacts are located on the substrate opposite the first substrate contacts.
7. Regarding claim 4, Shim shows that the second substrate contacts are located to accommodate a pin out different from the die.
8. Regarding claim 5, Shim (e.g. fig. 9) shows process for packaging a die comprising the steps of: defining electrical die contacts, defining a substrate 12 with first

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substrate contacts, flattening an electrical conductive balls 58, attaching the flattened electrically conductive balls to the die contacts, forming electrical conductive runs 22/24 on the substrate 12 connecting the first substrate contacts (i.e. the electrical contacts formed by the runs and the wires 28) to second substrate contacts 18, connecting electrically conductive wires 28 to the first substrate contact, running the electrically conductive wires substantially parallel to the surface of the die to the die contacts, and making electrical connections from the other ends of the wires to the flattened electrical conductive balls attached to the die contacts, and wherein the other ends remain substantially parallel to the surface of the die as they make electrical connections to the flattened electrical conductive ball.

9. Regarding claim 7, Shim shows that the second substrate contacts are located on the substrate opposite the first substrate contacts.

10. Regarding claim 8, Shim shows that the second substrate contacts are located to accommodate a pin out 18 different from the die.

Response to Arguments

11. Applicant's arguments filed 09/07/2005 have been fully considered but they are not persuasive.

12. Applicant argues that Shim does not disclose a wire that remain substantially parallel to the die surface as they make electrical contact to the ball because the wire disclosed by Shim depart from the ball vertically with respect to the die surface. Nevertheless, the prior art shows this limitation since the "other end", which makes electrical contact with the ball, can be defined as to include said vertical portion in

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addition to the region substantially parallel to die surface. Furthermore, the examiner disagrees with applicant argument that the ball disclosed by Shim does not provide spacing and electrical connection. As shown in figure 9, the ball provides both the spacing and the electrical connection. Note that the wire is not directly connected to the die pad. Furthermore, the claim does not claim, specify and/or quantify the "required space". Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

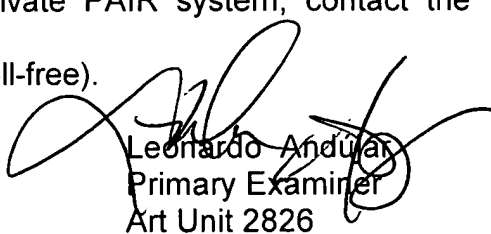
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonardo Andújar whose telephone number is 571-272-

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1912. The examiner can normally be reached on Mon through Thu from 9:00 AM to 7:30 PM EST.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Leonardo Andujar
Primary Examiner
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